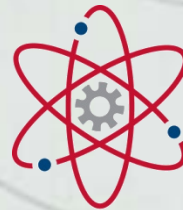


Science, Technology, Engineering, and Mathematics Cluster (STEM)



COLLEGE OF ENGINEERING
AND COMPUTING
UNIVERSITY OF SOUTH CAROLINA



South Carolina
PLTW
PROJECT LEAD THE WAY

Mr. B.T. Martin

Education Associate, State Department of Education
Office of Career and Technology Education
PLTW State Leader, Engineering Program

PLTW Mission

To create dynamic partnerships with our nation's schools to produce an ***increasing and more diverse*** group of students to be successful in science, engineering, and engineering technology programs at the four and two year college level.

Project Lead The Way® Curriculum Programs

Engineering

Middle School:

**Gateway To Technology™
(8 units)**

High School:

**Pathway To Engineering™
(9 courses)**

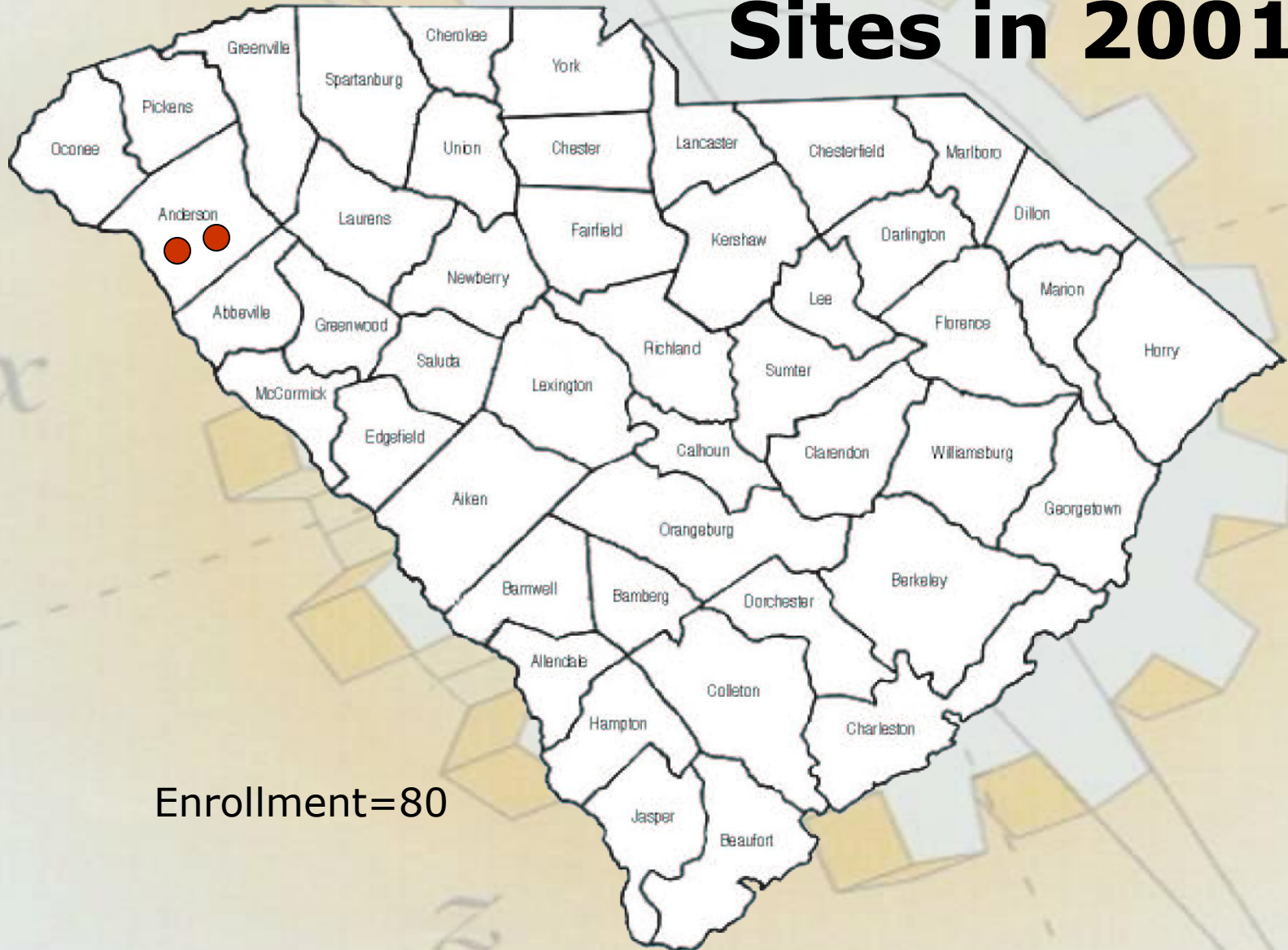
Biomedical Sciences

High School:

**Biomedical Sciences™
(4 courses)**

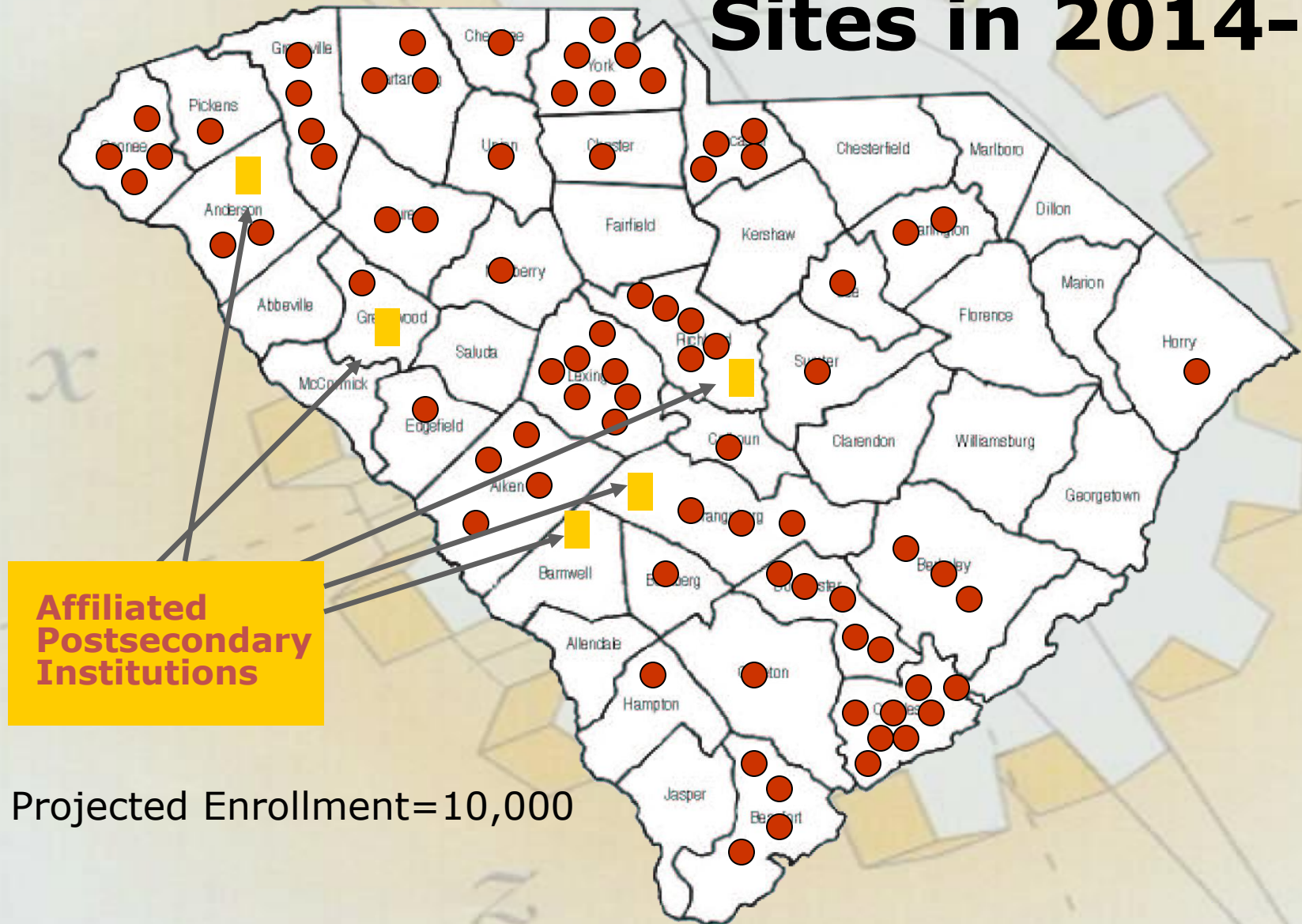
Project Lead the Way

Sites in 2001

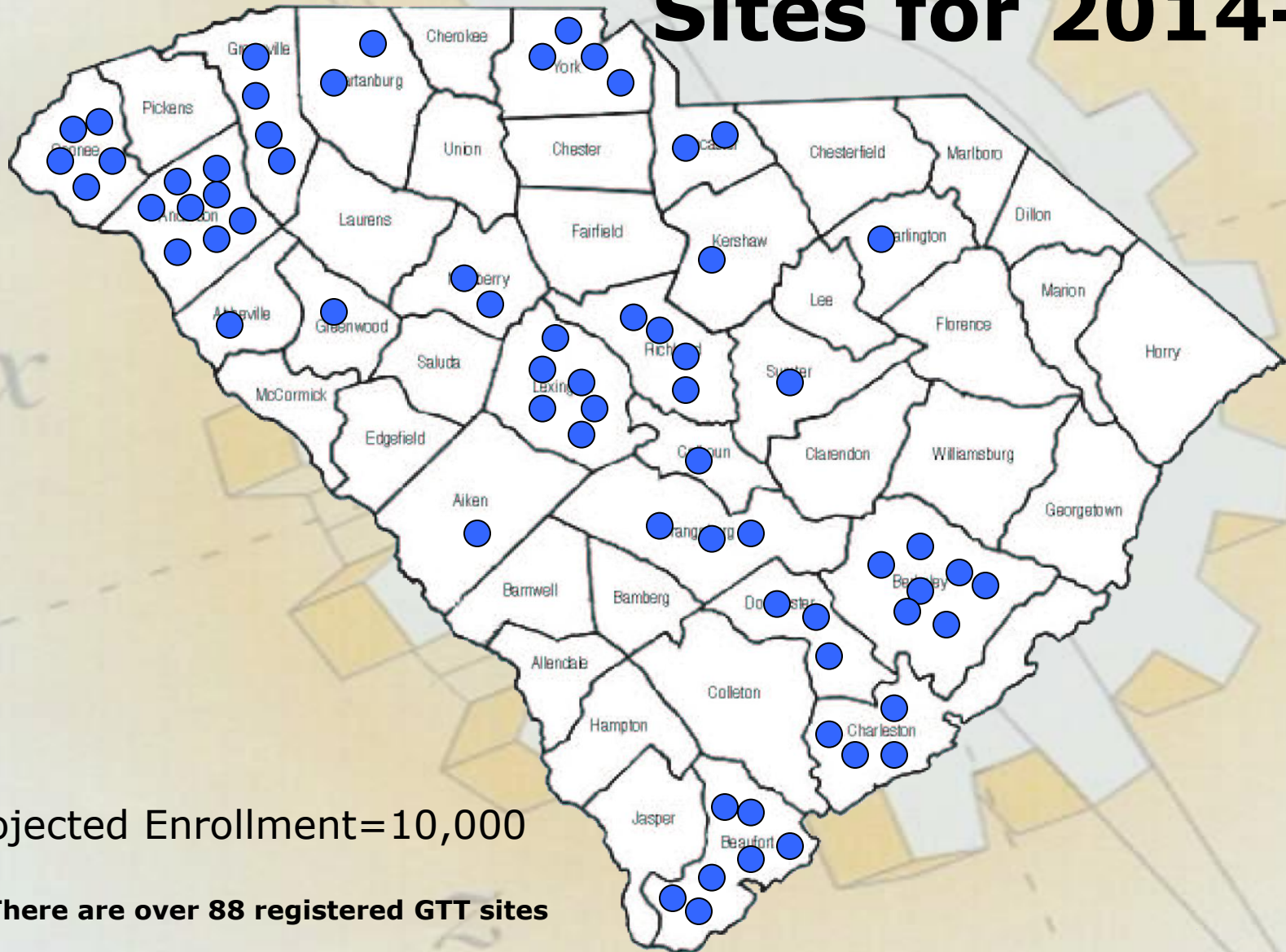


Enrollment=80

Project Lead the Way Sites in 2014-15



Gateway to Technology Sites for 2014-15



Projected Enrollment=10,000

There are over 88 registered GTT sites

Project Lead The Way

- **Pre-engineering curriculum that addresses academic standards**
- **PLTW end-of-course assessment**
- **Honors Credit**
- **PLTW end-of-course college credit assessment**
- **Teacher training**
- **Winter training January 2015 USC/Columbia*
(USC June – July 2015 GTT/PLTW teachers)**
- **Counselor training
(November 2014 GTT/PLTW counselors)**

There are 98 registered PLTW High School sites



Gateway To Technology®

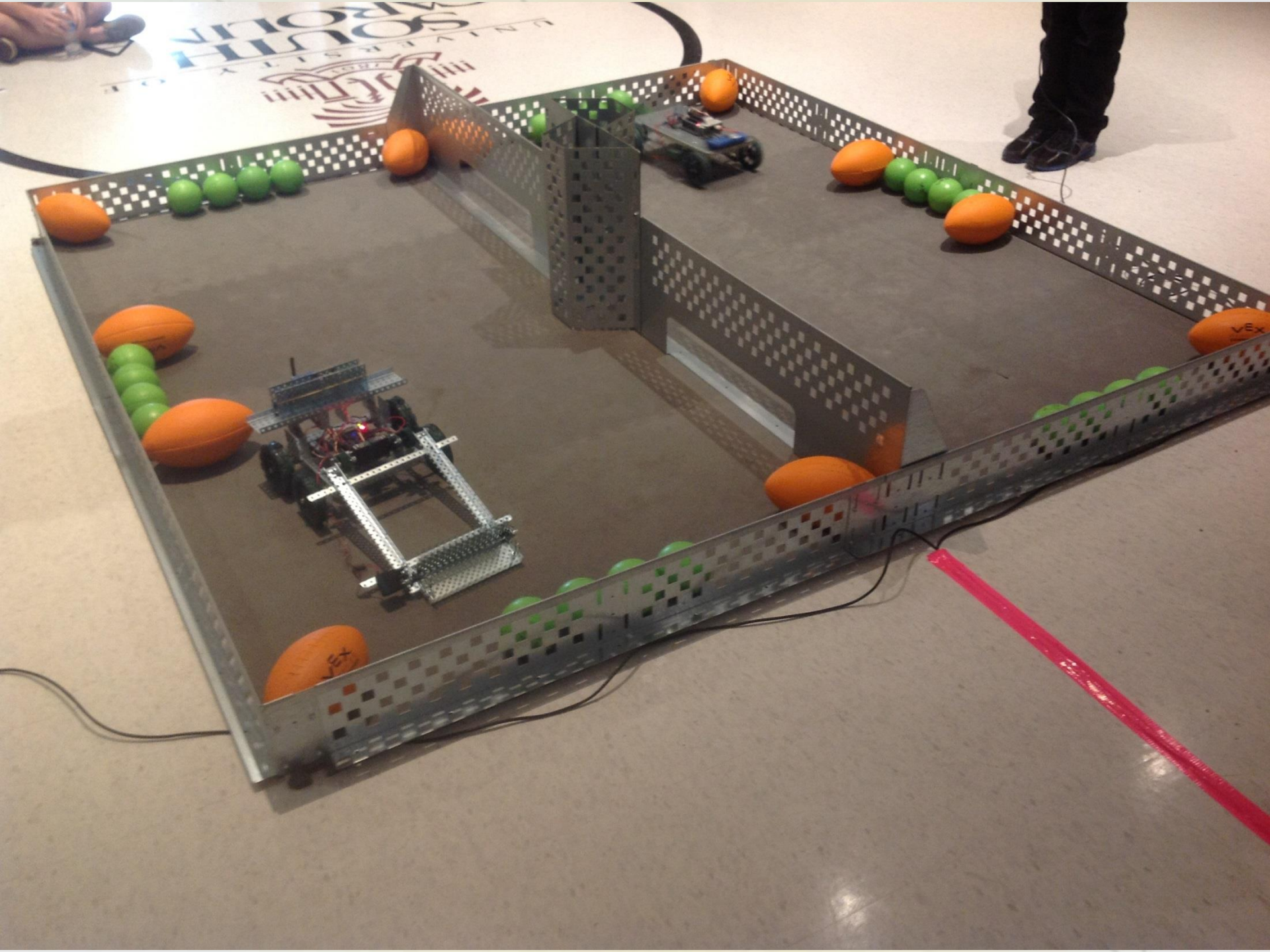
Middle School Program Gateway To Technology®

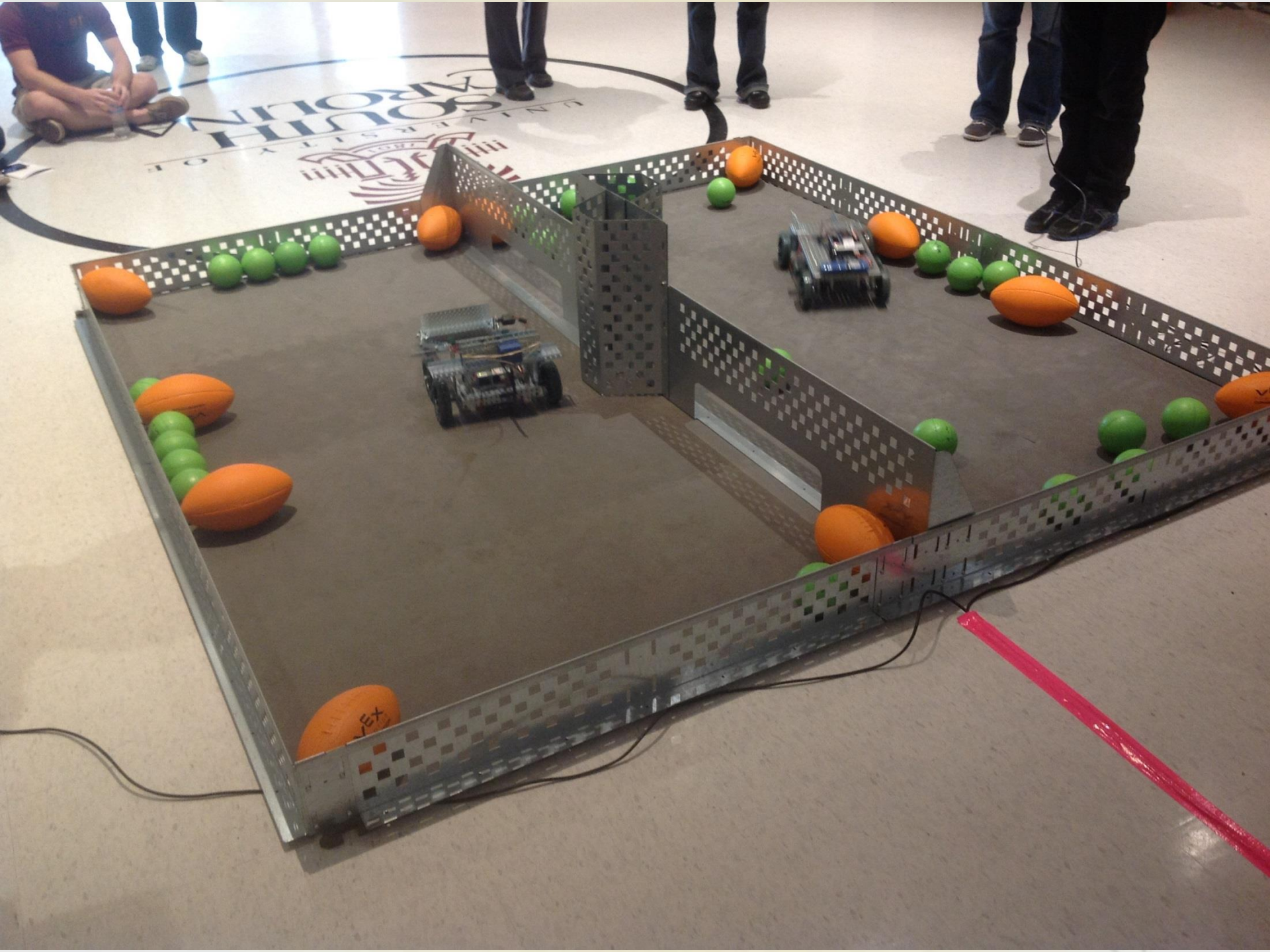
- Design and Modeling™
- Automation and Robotics™
- The Magic of Electrons™
- The Science of Technology™
- Flight and Space™
- Energy and the Environment™
- Green Architecture
- Medical Detectives

Implementation Options:

GTT® Basic - Implement DM and AR units

GTT® Advanced - Implement FS, EE, ME, GA, MD, and ST units





Assembly Design

- We sort of ran out of time on our assembly, because we were putting too much detail into our parts.
- This is what we had:

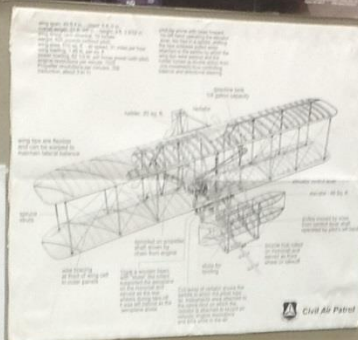




Color-Coded Jerseys on an Aircraft Carrier



- Purple
- Aviation Family ("Toys")
- Blue
- Plane Handlers
- Green
- Squadron Maintenance Personnel
- Yellow
- Captain & Accounting Officer
- Red
- Communications
- Brown
- Plane Captains
- Orange
- Quality Control, Safety Observers



FlightLine Rules

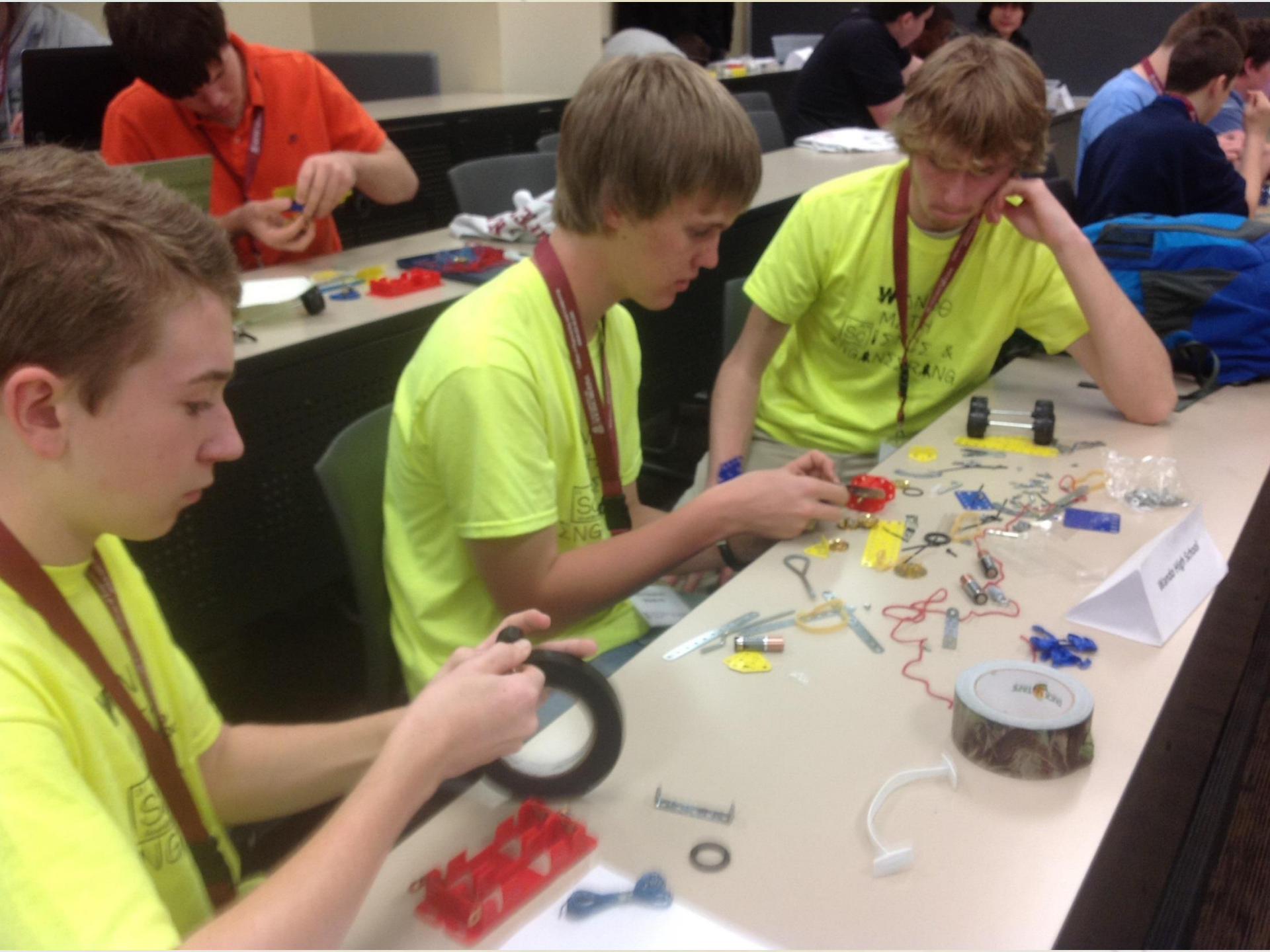
1. Respect yourself and those around you.
2. Be where you are supposed to be, doing what you are supposed to be doing, when you are supposed to be doing it.
3. Obey all rules and regulations of B.C.H.S.





Henry	Lesson 3 on Desktop
Pucket	Lesson 3 on Desktop
Dedrick	Lesson 5 on Desktop

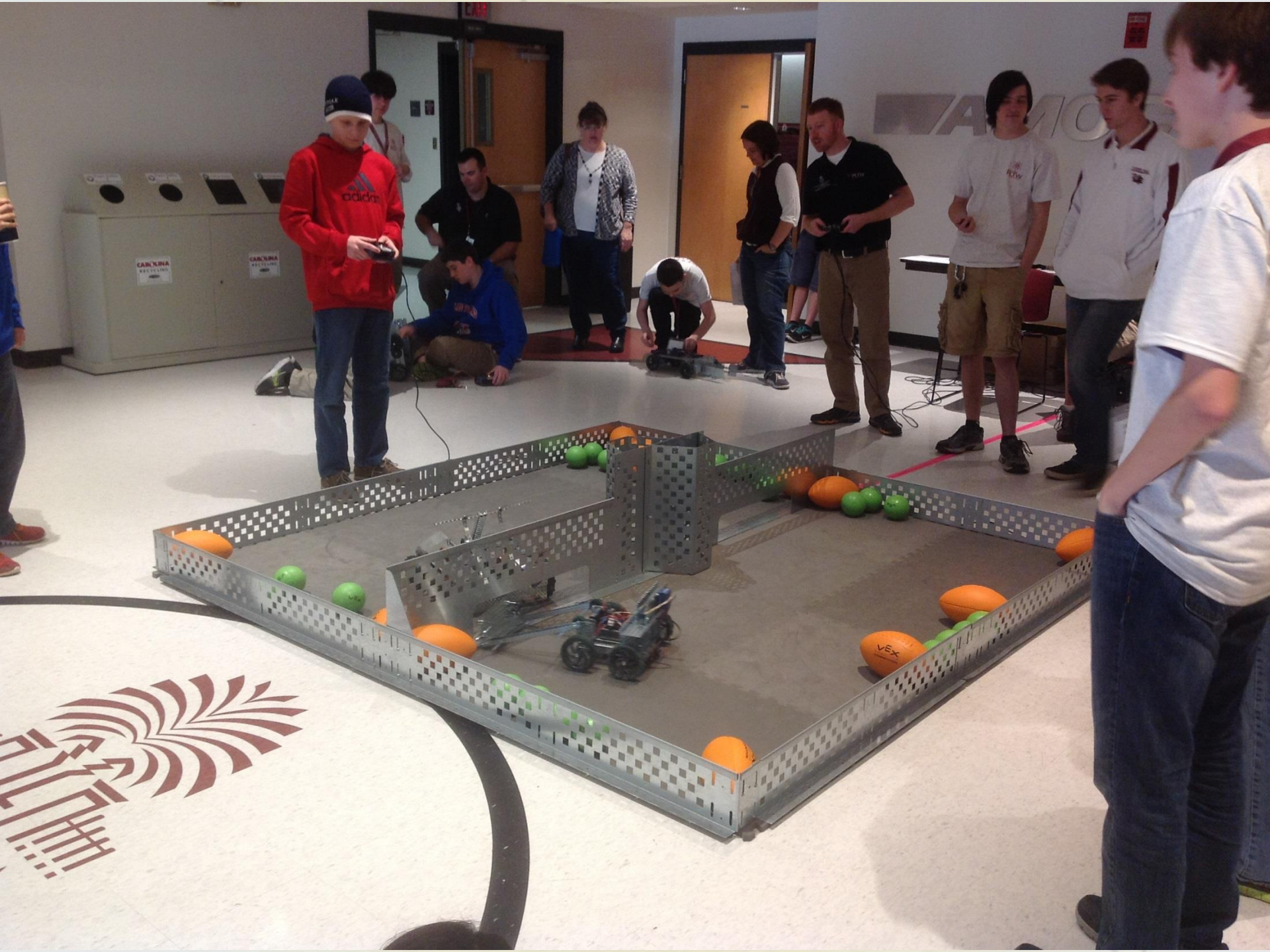
Lee	Lesson 3
	Lesson
	Lesson















WAMS

P

R

I

D

E

Take Elements of
Networking
Tools
Learning
Methods
Using Agents
Comparing
Handling
Availability

PERSONAL RECEPTION

The System Model and
Tools

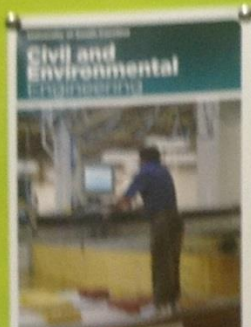
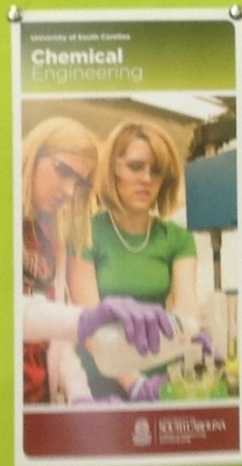
Use Available Data to
Organize Training Data
in a Network Model

PERSONAL

How to Design and
Use a Network
Model to Improve
Performance and
Reduce Costs

PERSONAL RECEPTION

How to Design and
Use a Network
Model to Improve
Performance and
Reduce Costs



What are we doing in GTT?

Monday, Nov. 4th

Intro to DICE project

Tuesday, Nov 5th

DICE

Wednesday, Nov. 6th
Extra Time & Help...

DICE ← troubleshoot

Thursday, Nov 7th

Finalize DICE

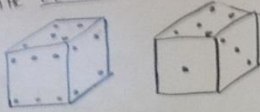
Friday November 8th

DICE Presentations

Daily Questions

#4: WHAT IS THE LINE PASSING THROUGH THE CENTER OF A CIRCLE CALLED?

#5



WHICH SIDE IS ON THE BOTTOM?

#6 WHAT IS THE LEAST COMMON MULTIPLE OF: 1, 2, 3, 4, 5, 6?

7-A → You owe 3 DICE

STEPS:

- ① CREATE 2 in x 1 in x 1 in
- ② 6 = 1 circle, extruded, then patterned
- ③ 4 = 1 circle, extruded, then patterned
- ④ 1 = 1 circle, extruded
- ⑤ 3 = 3 circles, extruded
- ⑥ 2 = 2 circles extruded
- ⑦ 5 = 1 circle, extruded, then patterned (4)
1 circle extruded (1)

RST 6-8.7 Integrate quantitative or technical information in word format with the same information expressed visually.

RST 6-8.3 Follow a multi-step procedure when doing experiments, taking measurements or performing technical tasks.

RST 6-8.2 Find the main idea of a text, and give correct summary of the text that's different from what you already know.

RST 6-8.4 Figure out the meaning of key symbols, key terms, and other domain specific words.

Congrats to our design winners!

8th [Brady D. (4), Michael D. (4), Aisha (4), ...]
6th [Saba (4), ...]
7A [Sean (4), ...]
7B [Cham (4), ...]



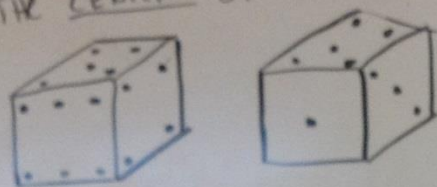
ing in GTT?

ject

Daily Questions

#4: WHAT IS THE LINE PASSING THROUGH THE CENTER OF A CIRCLE CALLED?

#5



WHICH SIDE IS ON THE BOTTOM?

#6 WHAT IS THE LEAST COMMON MULTIPLE OF: 1, 2, 3, 4, 5, 6?

7-A → You owe 3
DICE

STEPS:

①
1 → 6

1 → 6

① CREATE 1 in x 1 in x 1 in

② 6 = 1 circle, extruded, then patterned

③ 4 = 1 circle, extruded, then patterned

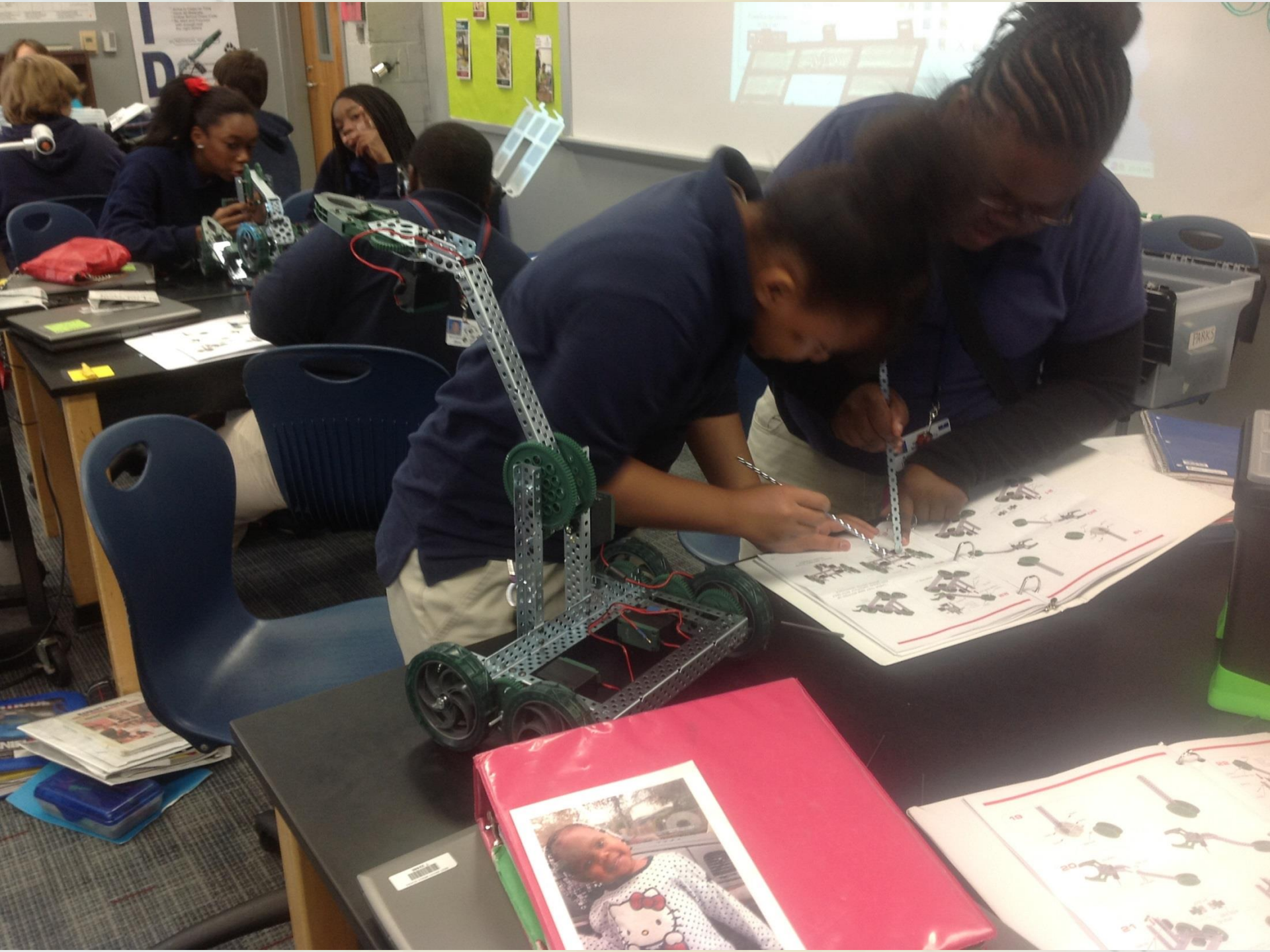
④ 1 = 1 circle, extruded

⑤ 3 = 3 circles, extruded

⑥ 2 = 2 circles extruded

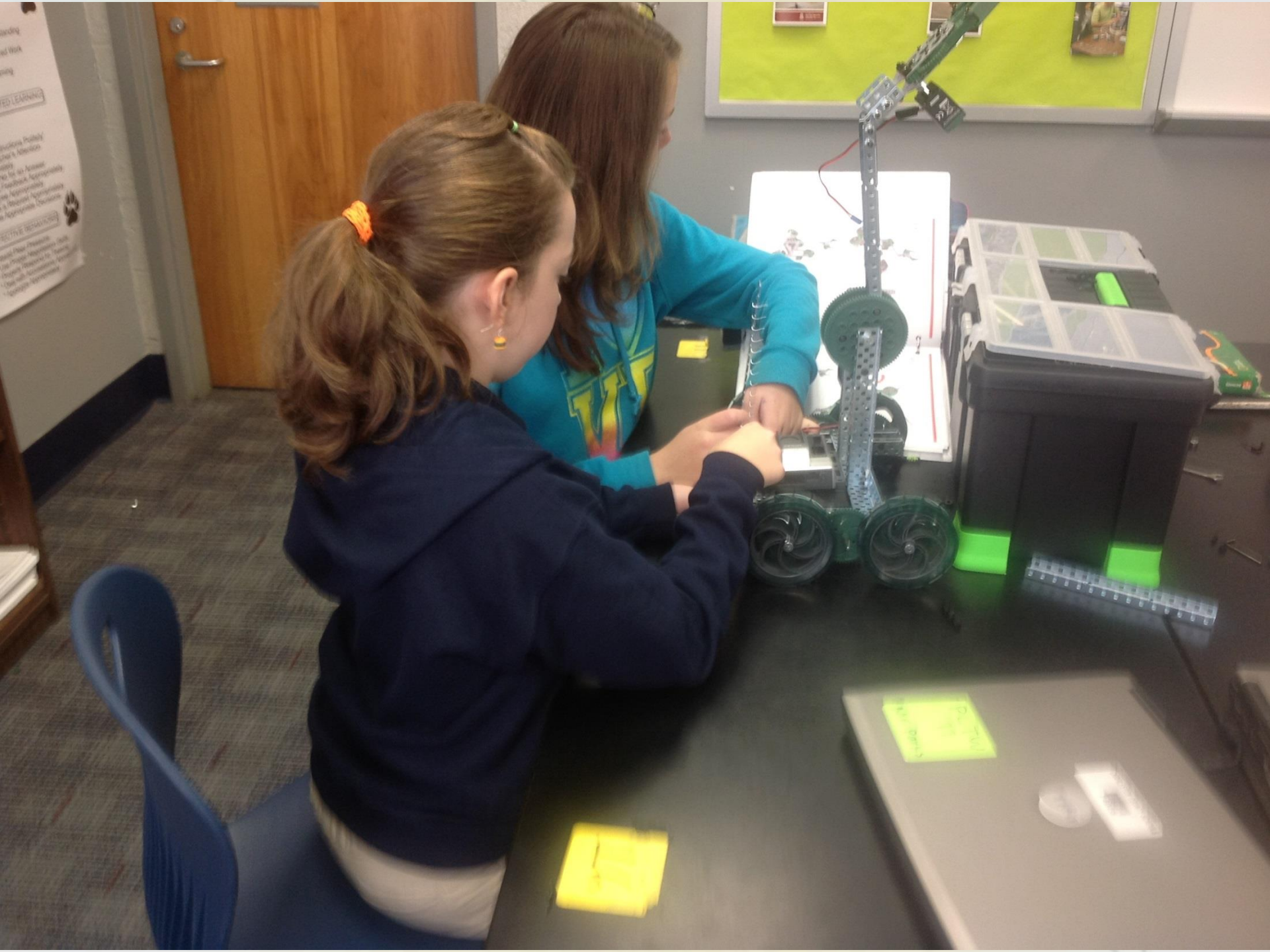
⑦ 5 = 1 circle, extruded, then patterned (4)
1 circle extruded (1)

RST 6-8.7 Integrate quantitative or technical information in word format with the same information expressed visually.

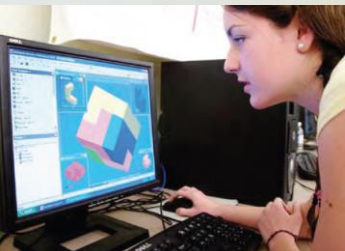












High School Program Pathway To Engineering™

Foundation Courses:

- Introduction to Engineering Design™
- Principles Of Engineering™

Specialization Courses:

- Aerospace Engineering™
- Biotechnical Engineering™
- Civil Engineering and Architecture™
- Computer Integrated Manufacturing™
- Digital Electronics
- Computer Sci. & Software Engineering

Capstone Course:

- Engineering Design and Development™

Implementation Option:

Implement at least 4 courses including the 2 foundation courses.









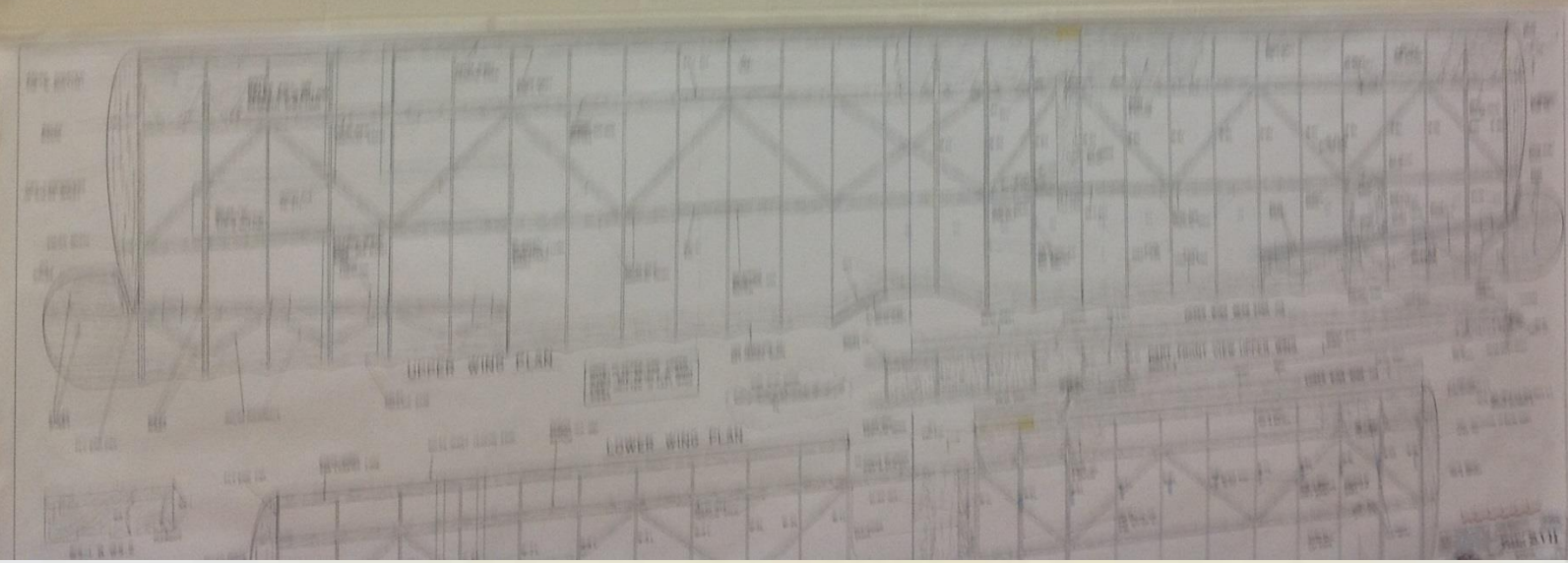
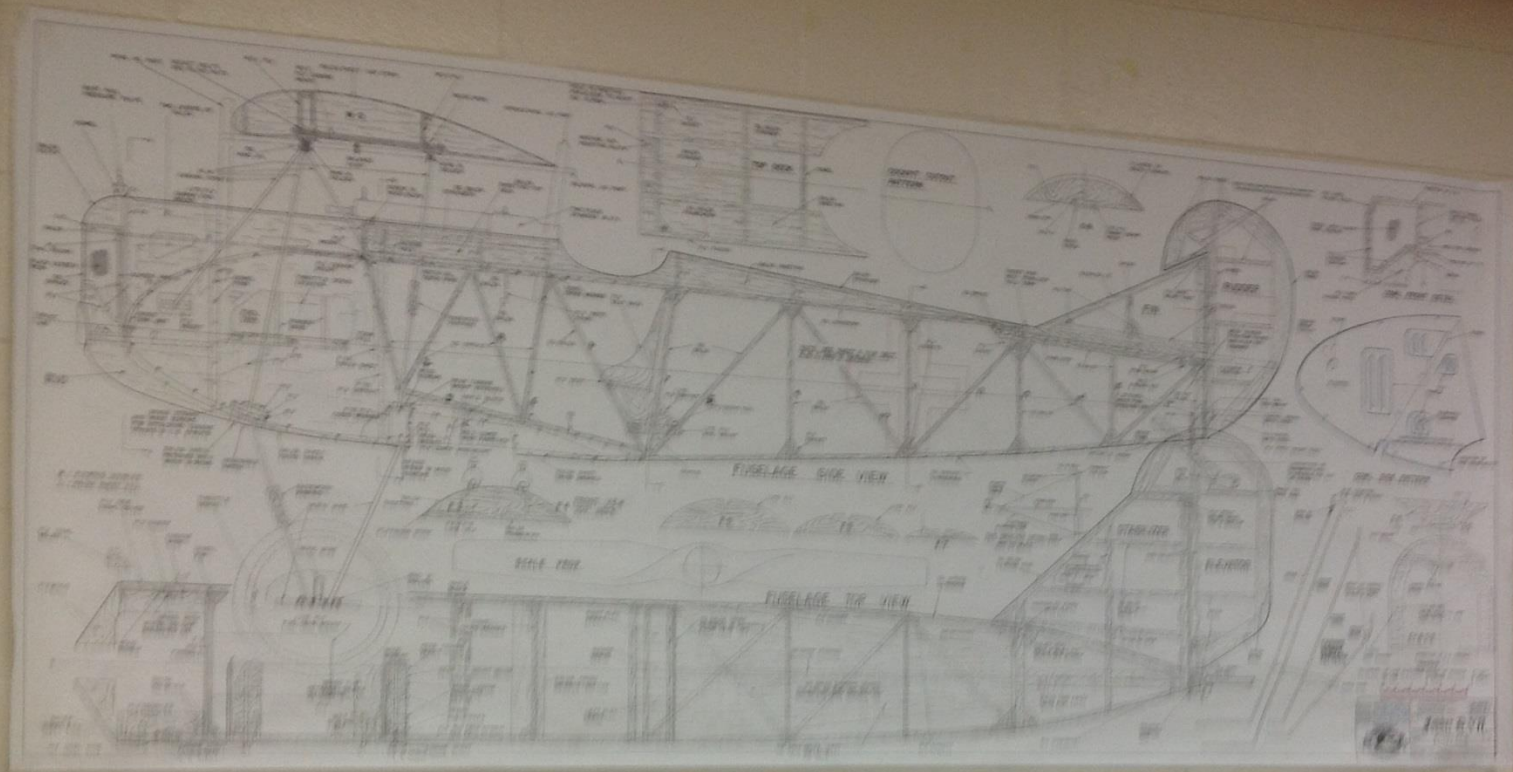


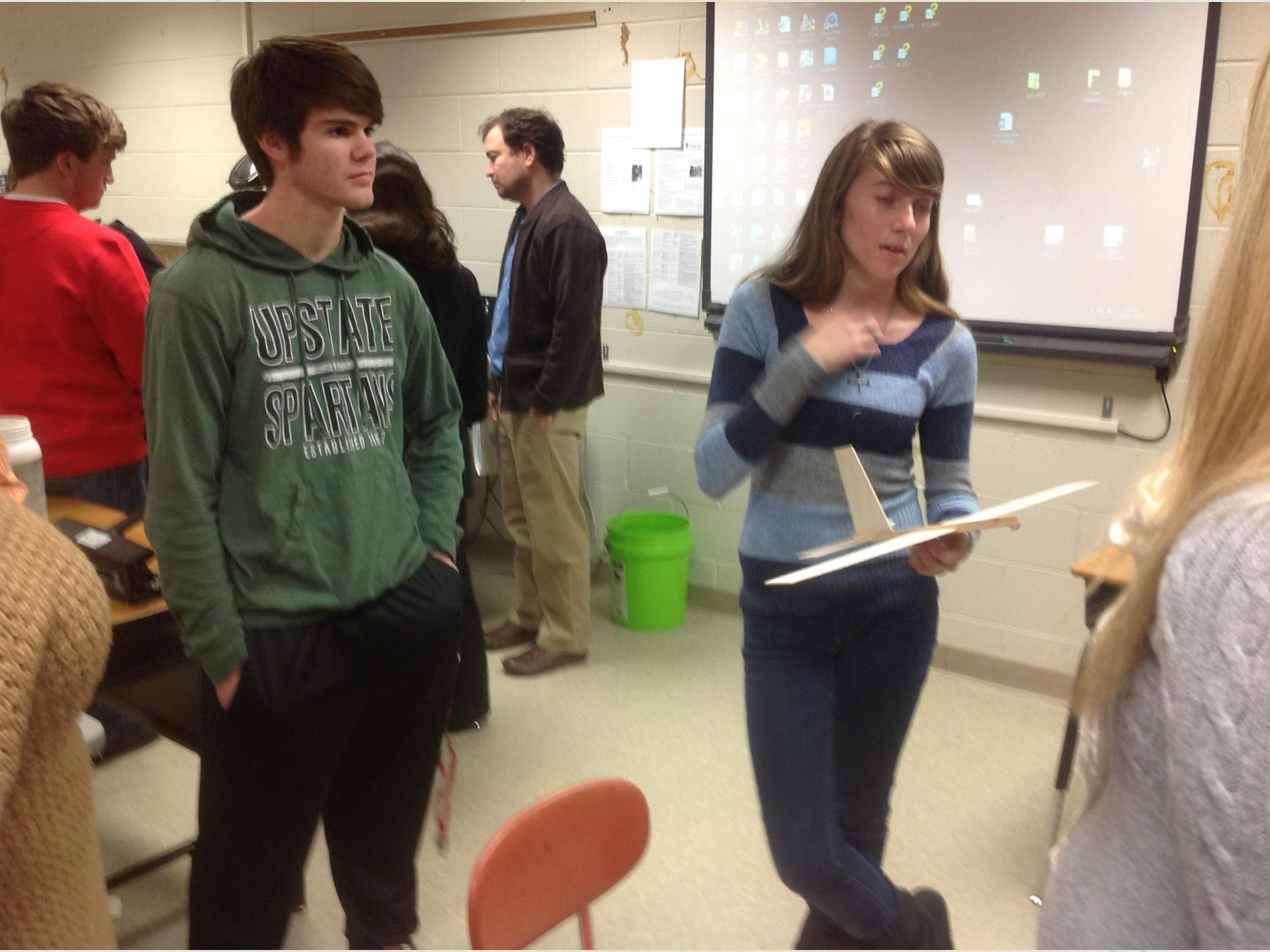
















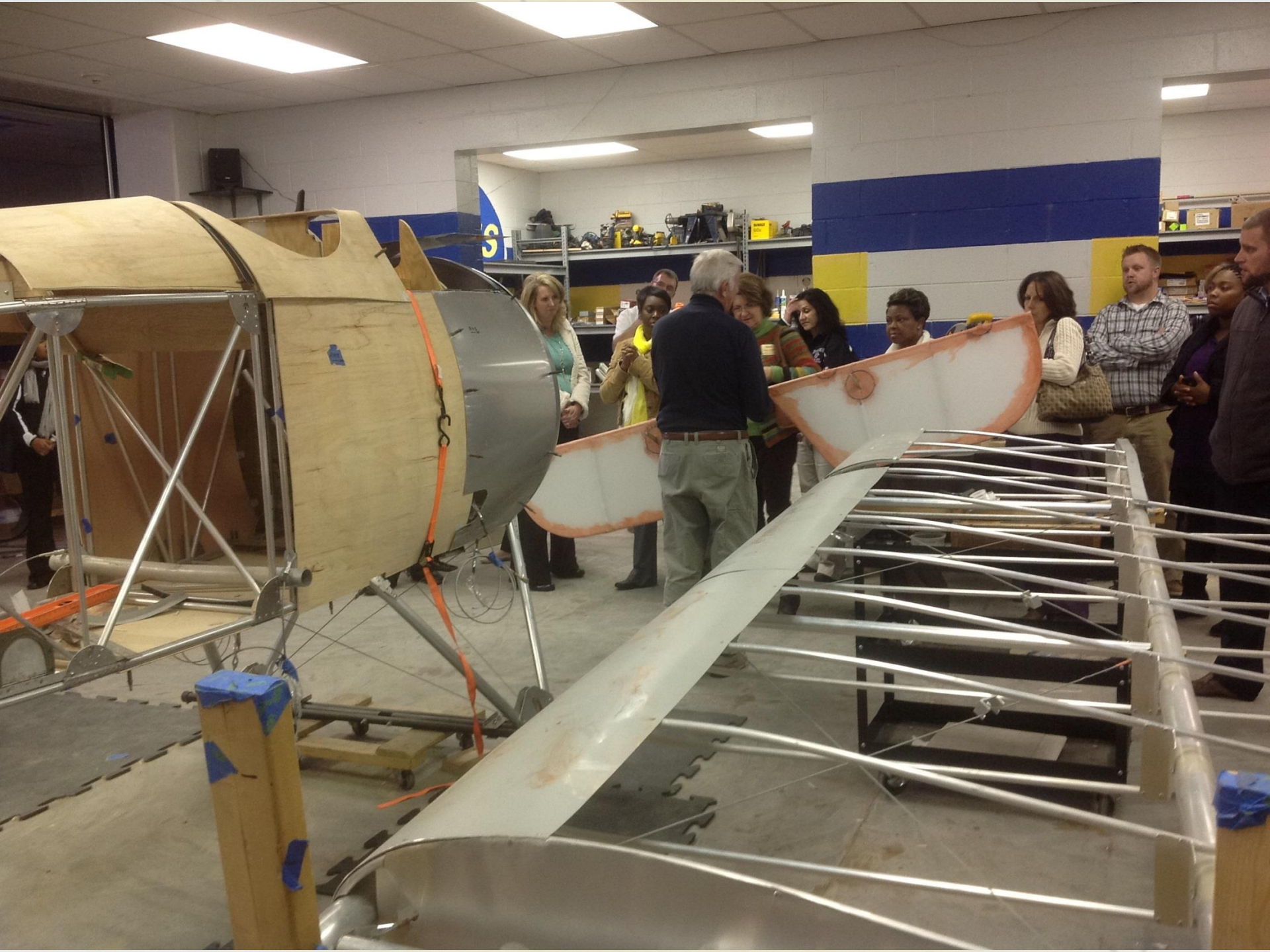


FORT MILL FOOTBALL									
SKILL				SKILL					
SQUAT	CLEAN	TOTAL	NAME	BENCH	SQUAT	CLEAN	TOTAL		
445	255	165	LOUIS	675		250	425		
385	260	945	RYAN	240	370	305	815		
370	250	890	CRYST	220		225	905		
405	200	830	JOHNS						
385	225	850							
375	215	865							
365	175	800							
355	205	740							



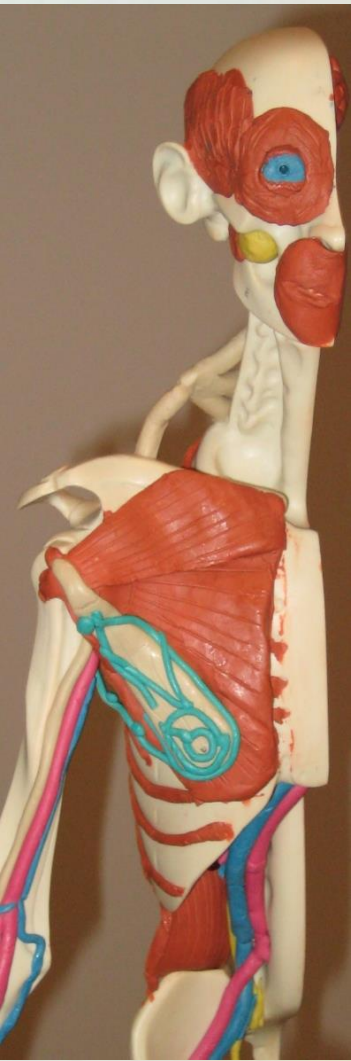












High School Program

Biomedical Sciences™

- Principles of the Biomedical Sciences™
- Human Body Systems™
- Medical Interventions™
- Biomedical Innovation™

Implementation Option:

Implement all 4 courses, offer courses in sequential order.



PENNSTATE



NHTI
Concord's Community College



UNIVERSITY OF MINNESOTA



SAN DIEGO STATE
UNIVERSITY



UNIVERSITY OF ILLINOIS
URBANA-CHAMPAIGN • CHICAGO • SPRINGFIELD



THE UNIVERSITY OF IOWA
IOWA STATE UNIVERSITY
COLLEGE OF ENGINEERING



EASTERN MICHIGAN
UNIVERSITY



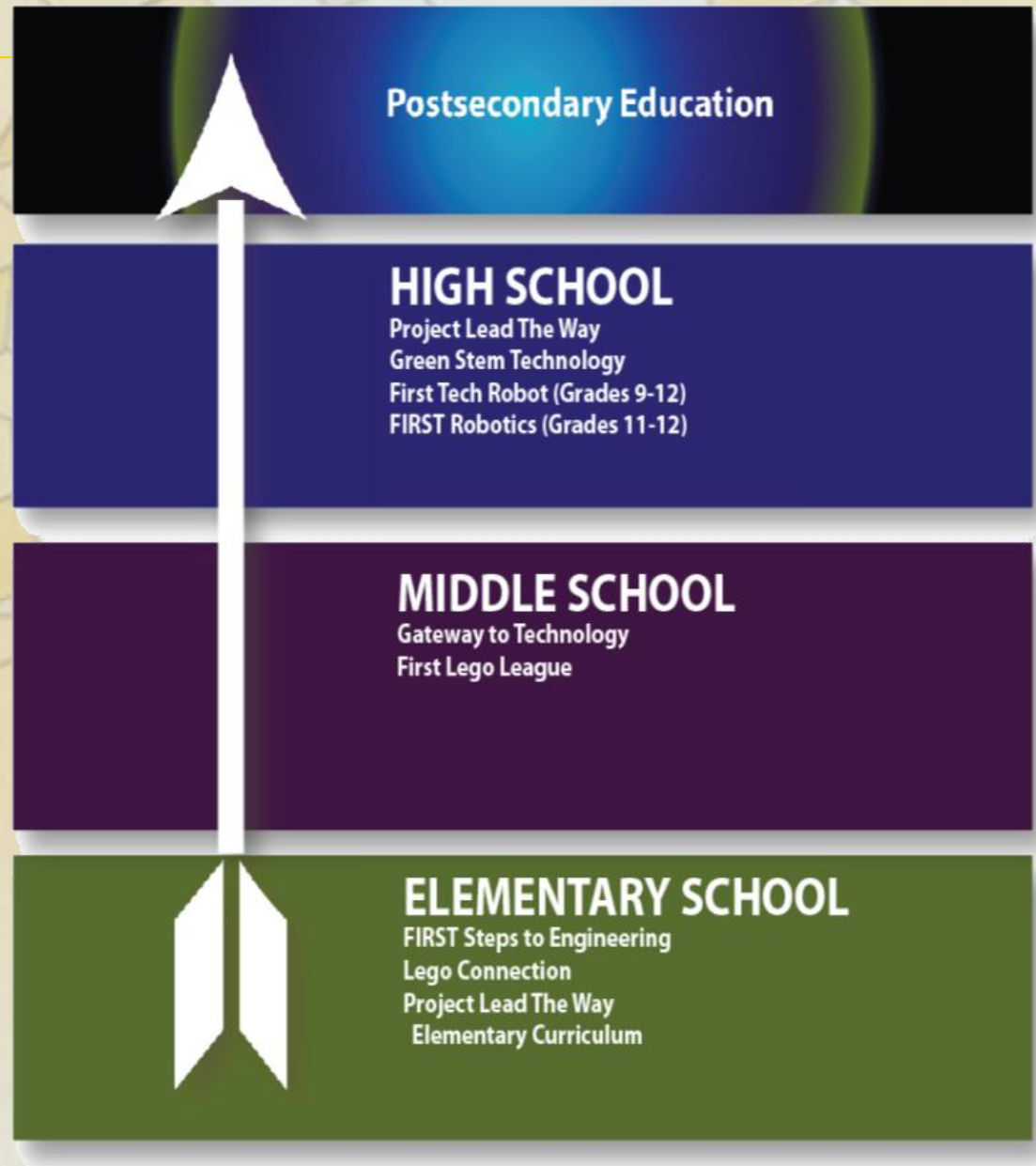
COLLEGE OF ENGINEERING
AND COMPUTING
UNIVERSITY OF SOUTH CAROLINA



GEORGIA SOUTHERN
UNIVERSITY



Seamless Pathway for Pre-Engineering



FIRST LEGO League



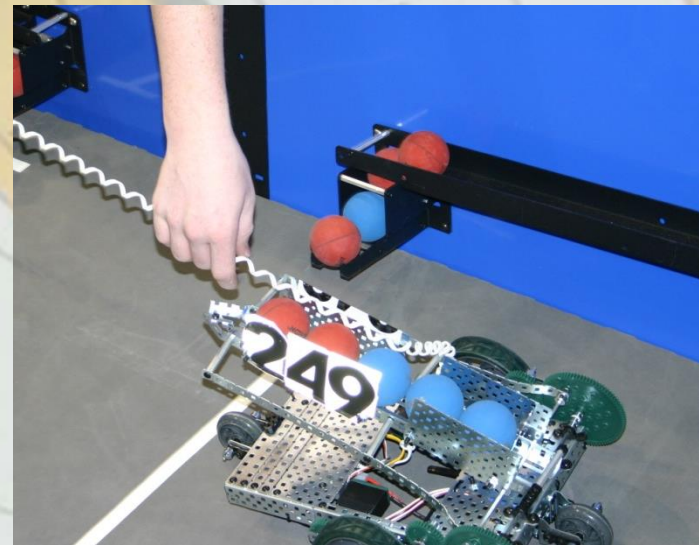
Elementary and middle school extra curricula activity that inspires future scientists and engineers and also integrates mathematics, science, and technology into the general curriculum.



**February 2015
Columbia Area**

VEX Robotics Competition

High school and middle school extra curricula activity that allows students to design and construct radio-controlled robotic devices which perform various tasks that expand the boundaries of experimental intelligence while integrating mathematics, science, and technology.



March 2015
Spring Hill High School
Chapin, SC

***FIRST* Robotics Competition**



High school extra curricula activity that combines the excitement of sport with mathematics, science, and technology to create a unique varsity sport for the mind.

FIRST robotics engages students in critical thinking and problem-solving activities related to real-world engineering challenges.



February- March 2015
Myrtle Beach Convention Center